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# **STIC Search Report**

## **EIC 1700**

**STIC Database Tracking Number: 93878**

**TO: James Pasterczyk**  
**Location: CP3 8A11**  
**May 13, 2003**

**Case Serial Number: 09359359**

**From: Kathleen Fuller**  
**Location: EIC 1700**  
**CP3/4 3D62**  
**Phone: 308-4290**

**Kathleen.Fuller@uspto.gov**

### **Search Notes**

I believe I found the exact compounds in the claims. I did not limit them by utility but printed all 6 references.

There is a mistake in the preparation for example 273 in the attached claims you gave me. One of the ingredients should be a benzoyl or benzoic acid compound.

Access DB# 93878

# SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: James William Pasterczyk Examiner #: 71209 Date: 5/12/03  
Art Unit: 1755 Phone Number 308-3977 Serial Number: 09/357359  
Mail Box and Bldg/Room Location: C93-8A11 Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*  
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

*See attachment*

## STAFF USE ONLY

|  |                        |                                   |
|--|------------------------|-----------------------------------|
| Searcher: <u>K. Fuller</u>             | Type of Search         | Vendors and cost where applicable |
| Searcher Phone #: _____                | NA Sequence (#) _____  | STN <u>✓</u>                      |
| Searcher Location: _____               | AA Sequence (#) _____  | Dialog _____                      |
| Date Searcher Picked Up: _____         | Structure (#) <u>4</u> | Questel/Orbit _____               |
| Date Completed: <u>5/13/03</u>         | Bibliographic _____    | Dr.Link _____                     |
| Searcher Prep & Review Time: <u>20</u> | Litigation _____       | Lexis/Nexis _____                 |
| Clerical Prep Time: _____              | Fulltext _____         | Sequence Systems _____            |
| Online Time: <u>72</u>                 | Patent Family _____    | WWW/Internet _____                |
|  | Other _____            | Other (specify) _____             |

# EIC1700

## Search Results

### Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact *the EIC searcher* who conducted the search *or contact*:

Kathleen Fuller, Team Leader, 308-4290, CP3/4 3D62

---

#### *Voluntary Results Feedback Form*

➤ *I am an examiner in Workgroup:*  *Example:*

➤ *Relevant prior art found, search results used as follows:*

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

*Types of relevant prior art found:*

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ *Relevant prior art not found:*

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Search results were not useful in determining patentability or understanding the invention.

**Other Comments:**

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Drop off completed forms in CP3/4 - 3D62 .

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STRUCTURE FILE UPDATES: 12 MAY 2003 HIGHEST RN 514787-04-3  
DICTIONARY FILE UPDATES: 12 MAY 2003 HIGHEST RN 514787-04-3

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP  
PROPERTIES for more information. See STNote 27, Searching Properties  
in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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FILE COVERS 1907 - 13 May 2003 VOL 138 ISS 20  
FILE LAST UPDATED: 12 May 2003 (20030512/ED)

This file contains CAS Registry Numbers for easy and accurate  
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OR 10049-05-5/BI OR 102-82-9/BI OR 104-81-4/BI OR 106-95-6/BI  
OR 106173-87-9/BI OR 106826-12-4/BI OR 106911-77-7/BI OR  
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OR 5468-93-9/BI OR 56467-21-1/BI OR 56905-18-1/BI OR 585-71-7/B  
I OR 589-15-1/BI OR 590-17-0/BI

L35 3 SEA FILE=REGISTRY ABB=ON L28 AND AZO  
L36 1 SEA FILE=REGISTRY ABB=ON L35 AND 2/NR  
L37 4 SEA FILE=HCAPLUS ABB=ON L36  
L38 1 SEA FILE=REGISTRY ABB=ON L28 AND VINYL ACETATE  
L42 13190 SEA FILE=REGISTRY ABB=ON 108-05-4/CRN  
L43 1 SEA FILE=REGISTRY ABB=ON 108-05-4  
L44 1 SEA FILE=REGISTRY ABB=ON 371771-79-8  
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L54 1 SEA FILE=REGISTRY ABB=ON 213453-02-2/CRN  
L55 1 SEA FILE=REGISTRY ABB=ON 213453-02-2  
L56 4 SEA FILE=HCAPLUS ABB=ON (L53 OR L54 OR L55) OR (L44 OR L45 OR  
L46)  
L57 6 SEA FILE=HCAPLUS ABB=ON L51 OR L56

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L57 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2003 ACS

AN 2003:255121 HCAPLUS

DN 138:272092

TI Atom or group transfer radical polymerization in the presence of  
transition metals

IN Matyjaszewski, Krzysztof; Gaynor, Scott G.; Coca, Simion

PA Carnegie Mellon University, USA

SO U.S., 90 pp., Cont.-in-part of U.S. 6,407,187.

CODEN: USXXAM

DT Patent

LA English

IC ICM C08F004-06

ICS C08F004-40; C08F004-42

NCL 526090000; 526113000; 526118000; 526135000; 526172000; 526328000;  
526335000; 526346000; 526347000

CC 35-3 (Chemistry of Synthetic High Polymers)

*applicants*

## Section cross-reference(s): 67

FAN.CNT 6

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | US 6541580  | B1   | 20030401 | US 1999-369157  | 19990806 |
|      | US 5763548  | A    | 19980609 | US 1995-414415  | 19950331 |
|      | US 6538091  | B1   | 20030325 | US 1998-18554   | 19980204 |
|      | US 6407187  | B1   | 20020618 | US 1998-34187   | 19980303 |
|      | US 6512060  | B1   | 20030128 | US 1999-359591  | 19990723 |
|      | US 2002183473   | A1   | 20021205 | US 2001-34908   | 20011221 |
|      | US 2002193538   | A1   | 20021219 | US 2002-98052   | 20020313 |
| PRAI | US 1995-414415  | A3   | 19950331 |                 |          |
|      | US 1997-39543P  | P    | 19970311 |                 |          |
|      | US 1997-41620P  | P    | 19970402 |                 |          |
|      | US 1998-18554   | A3   | 19980204 |                 |          |
|      | US 1998-34187   | A2   | 19980303 |                 |          |
|      | US 1995-559309  | A3   | 19951115 |                 |          |
|      | US 1999-369157  | A2   | 19990806 |                 |          |
|      | US 2000-534827  | A2   | 20000323 |                 |          |
|      | US 2000-257738P   | P    | 20001222 |                 |          |
| AB   | A process for ATRP polymn. and coupling of mols. by radical processes is provided, wherein improvements are provided by using transition metal of zero oxidn. state in place of or in addn. to transition metal complexes to give improved control over mol. wt., mol. wt. distribution and compns. of the products formed. Alternatively, these improvements are achieved by using mixed transition metal compd. systems in which 1 of the transition metals is in a higher of 2 available oxidn. state and the other is in a lower of 2 available oxidn. states, wherein the 2 metals are different. Alternatively, these improvements are achieved by using compds. of Fe, Mn, Cr, or Cu that can participate in a reversible redox cycle with .gtoreq.1 of initiators, dormant polymer chain ends, and growing polymer chain ends. Thus, heating 10 mg Fe powder, 69 mg PPh3, 1 mL styrene, and 12 .mu.L 1-phenylethyl bromide 9 h at 110.degree. gave 70% polymer with Mn 6780 and Mw/Mn 1.19. |      |          |                 |          |
| ST   | ATRP zero valent transition metal catalyst; polystyrene manuf iron triphenylphosphine phenylethyl bromide catalyst  |      |          |                 |          |
| IT   | Polysiloxanes, preparation<br>RL: IMF (Industrial manufacture); PREP (Preparation)<br>(atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)   |      |          |                 |          |
| IT   | Transition metals, uses<br>RL: CAT (Catalyst use); USES (Uses)<br>(atom or group transfer radical polymn. in presence of zero valent transition metals)   |      |          |                 |          |
| IT   | Transition metal complexes<br>RL: CAT (Catalyst use); USES (Uses)<br>(atom or group transfer radical polymn. in presence of zero valent transition metals and(or) transition metal compds.)   |      |          |                 |          |
| IT   | Polymerization catalysts<br>(atom transfer, radical; atom or group transfer radical polymn. in presence of zero valent transition metals and(or) transition metal compds.)  |      |          |                 |          |
| IT   | Boranes<br>Phosphines<br>RL: CAT (Catalyst use); USES (Uses)<br>(cocatalyst; atom or group transfer radical polymn. in presence of zero valent transition metals)   |      |          |                 |          |

- IT Dendritic polymers  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(hyperbranched; atom or group transfer radical polymn. for manuf. of hyperbranched polymers from (bromopropionyloxy)ethyl acrylate)
- IT Carboxylic acids, uses  
RL: CAT (Catalyst use); USES (Uses)  
(salts, cocatalyst; atom or group transfer radical polymn. in presence of zero valent transition metals)
- IT 598-54-9, Cuprous acetate 7447-39-4, Cupric chloride, uses 10025-73-7, Chromic chloride  
RL: CAT (Catalyst use); USES (Uses)  
(atom or group transfer radical polymn. in presence of mixed transition metal compd. system in which 1 of the transition metals is in higher of 2 available oxidn. states)
- IT 25014-41-9P, Polyacrylonitrile 25249-16-5P, Poly-2-hydroxyethyl methacrylate 26588-80-7P, Butyl acrylate-2-hydroxyethyl methacrylate-methyl methacrylate-styrene copolymer  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(atom or group transfer radical polymn. in presence of mixed transition metal compd. system in which 1 of the transition metals is in higher of 2 available oxidn. states)
- IT 1313-13-9, Manganese dioxide, uses 7773-01-5, Manganese chloride 10049-05-5, Chromium dichloride 26490-65-3, Cuprous hexafluorophosphate 37234-97-2 68986-76-5, Cuprous 2-thiophenecarboxylate  
RL: CAT (Catalyst use); USES (Uses)  
(atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)
- IT 79-07-2DP, 2-Chloroacetamide, reaction products with polystyrene 104-81-4DP, 4-Methylbenzyl bromide, reaction products with polystyrene 106-95-6DP, Allyl bromide, reaction products with polymethyl acrylate 589-15-1DP, 4-Bromobenzyl bromide, reaction products with polystyrene 590-17-0DP, Bromoacetonitrile, reaction products with polystyrene 2549-51-1DP, Vinyl chloroacetate, reaction products with polystyrene 2916-14-5DP, Allyl chloroacetate, reaction products with polystyrene 5061-21-2DP, reaction products with polystyrene 9003-21-8DP, Polymethyl acrylate, functionalized 9003-49-0P, Polybutyl acrylate 9003-54-7P, Acrylonitrile-styrene copolymer 17201-43-3DP, 4-Cyanobenzyl bromide, reaction products with polystyrene 19481-82-4DP, 2-Bromopropionitrile, reaction products with polystyrene 25067-63-4P, Methyl acrylate-vinyl acetate copolymer 25154-86-3P, Poly[2-(dimethylamino)ethyl methacrylate] 25232-27-3P, Poly-tert-butyl acrylate 25266-62-0P, Polyallyl acrylate 25767-47-9P, Butyl acrylate-styrene copolymer 26022-14-0P, Poly-2-hydroxyethyl acrylate 26374-91-4P, Polyglycidyl acrylate 29158-71-2P, Poly[2-(trimethylsiloxy)ethyl methacrylate] 30323-87-6P, Polyisobornyl acrylate 30811-69-9P, Polyvinyl acrylate 39149-80-9DP, tert-Butyl 2-bromopropionate, reaction products with polystyrene 40704-75-4P, Poly-N-(2-hydroxypropyl)methacrylamide 56467-21-1P, Butyl acrylate-3-(trimethoxysilyl)propyl methacrylate copolymer 86293-61-0P, N-Cyclohexylmaleimide-styrene copolymer 106173-87-9P, 2-Hydroxyethyl methacrylate-styrene graft copolymer 106826-12-4P, Ethylene-styrene graft copolymer 106911-77-7P, Methyl methacrylate-styrene block copolymer 107227-34-9P, Acrylonitrile-isobutylene alternating copolymer 108150-11-4P, Methyl acrylate-methyl methacrylate-block copolymer 108501-18-4P, Butyl acrylate-methyl methacrylate block copolymer 108501-19-5P, Butyl acrylate-methyl methacrylate-styrene block copolymer 108548-96-5P, Hexamethylcyclotrisiloxane-styrene graft copolymer



- 110772-34-4P, Butyl acrylate-styrene block copolymer 110807-37-9P, Ethylene-methyl methacrylate graft copolymer 111740-42-2P, Methyl acrylate-styrene block copolymer 112965-31-8P, Acrylonitrile-butyl acrylate-styrene block copolymer 121264-61-7P, Butyl acrylate-2-hydroxyethyl acrylate block copolymer 121876-18-4P, Isobutylene-isoprene-styrene graft copolymer 166664-50-2P, Butyl acrylate-isobutylene alternating copolymer 197142-57-7P, Dicyclopentadiene-styrene block copolymer 197142-58-8P, Methyl acrylate-norbornene block copolymer 197142-59-9P, Dicyclopentadiene-methyl acrylate block copolymer 197251-85-7P, Norbornene-styrene block copolymer 208446-93-9DP, 2-Hydroxyethyl 2-bromopropionate, reaction products with polystyrene 212697-80-8P, Poly[2-(trimethylsiloxy)ethyl acrylate] 213453-12-4P, Styrene-vinyl chloride-vinyl chloroacetate graft copolymer 213453-13-5P, Butyl acrylate-2-ethylhexyl acrylate-3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl acrylate block copolymer 213453-14-6P, Isobornyl acrylate-isobutene-methyl acrylate-methyl methacrylate-styrene block copolymer 213555-59-0P, Acrylonitrile-methyl acrylate block copolymer 222734-87-4P, Isobutene-p-methylstyrene-styrene graft copolymer 503445-26-9P, Isobutene-isobornyl acrylate-p-methylstyrene graft copolymer 503445-27-0P, Isobornyl acrylate-isobutene-isoprene graft copolymer
- RL: IMF (Industrial manufacture); PREP (Preparation)  
(atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)
- IT 9003-53-6DP, Polystyrene, reaction products with glycidyl 2-bromopropionate 85673-60-5DP, reaction products with polystyrene
- RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)
- IT 7439-88-5, Iridium, uses 7439-89-6, Iron, uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-15-5, Rhenium, uses 7440-16-6, Rhodium, uses 7440-18-8, Ruthenium, uses 7440-19-9, Samarium, uses 7440-22-4, Silver, uses 7440-47-3, Chromium, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses
- RL: CAT (Catalyst use); USES (Uses)  
(atom or group transfer radical polymn. in presence of zero valent transition metals)
- IT 9003-21-8P, Polymethyl acrylate 9003-53-6P, Polystyrene 9011-14-7P, PMMA 188065-74-9P, Poly[2-(2-bromopropionyloxy)ethyl acrylate] **213453-06-6P**, Poly[2-(2-bromopropionyloxy)ethyl methacrylate]
- RL: IMF (Industrial manufacture); PREP (Preparation)  
(atom or group transfer radical polymn. in presence of zero valent transition metals)
- IT 49864-98-4P, Hexakis[4-(hydroxymethyl)phenoxy]cyclotriphosphazene
- RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(cocatalyst precursor; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)
- IT 64-18-6, Formic acid, reactions 111-40-0, Diethylenetriamine 123-72-8, Butyraldehyde 4097-89-6, Tren
- RL: RCT (Reactant); RACT (Reactant or reagent)  
(cocatalyst precursor; atom or group transfer radical polymn. in

presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)

IT 2085-33-8, Aluminum 8-Hydroxyquinolate

RL: CAT (Catalyst use); USES (Uses)

(cocatalyst; atom or group transfer radical polymn. in presence of mixed transition metal compd. system in which 1 of the transition metals is in higher of 2 available oxidn. states)

IT 80-58-0, 2-Bromobutyric acid 94-36-0, Benzoyl peroxide, uses 110-18-9, N,N,N',N'-Tetramethylethylenediamine 124-63-0, Methanesulfonyl chloride 148-24-3, 8-Hydroxyquinoline, uses 535-11-5, Ethyl 2-bromopropionate 672-65-1, 1-Phenylethyl chloride 998-40-3, Tributylphosphine 1116-76-3, Trioctylamine 1643-19-2, Tetraabutylammonium bromide 2052-01-9, 2-Bromoisobutyric acid 2212-32-0, 2-[[2-(Dimethylamino)ethyl]methylamino]ethanol 3012-37-1, Benzyl thiocyanate 3030-47-5, PMDETA 4328-13-6, Tetrahexylammonium bromide 17639-93-9, Methyl 2-chloropropionate 18301-66-1, Trimethylsilyl 2-bromobutyrate 24457-21-4, tert-Butyl 2-bromobutyrate 41203-22-9, 1,4,8,11-Tetramethyl-1,4,8,11-tetraazacyclotetradecane 56905-18-1, Methyl 2-iodopropionate 72914-19-3, 4,4'-Di-tert-butyl-2,2'-bipyridine 82280-42-0, Hexakis[4-(bromomethyl)phenoxy]cyclotriphosphazene 213137-90-7, tert-Butyldimethylsilyl 2-bromobutyrate

RL: CAT (Catalyst use); USES (Uses)

(cocatalyst; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)

IT 5468-93-9P, 1,2-Bis(2-bromopropionyloxy)ethane 17678-99-8P

33527-91-2P, Tris[2-(dimethylamino)ethyl]amine 204580-80-3P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(cocatalyst; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)

IT 68-12-2, DMF, uses 98-59-9, p-Toluenesulfonyl chloride 102-82-9, Tributylamine 366-18-7, 2,2'-Bipyridine 585-71-7, 1-Phenylethyl bromide 600-00-0, Ethyl 2-bromoisobutyrate 603-35-0,

Triphenylphosphine, uses 3083-10-1, 1,1,4,7,10,10-Hexamethyltriethylenetetramine 5445-17-0, Methyl 2-bromopropionate 7787-70-4, Cuprous bromide 7789-45-9, Cupric bromide 7789-46-0, Ferrous bromide 10031-26-2, Ferric bromide 19481-82-4, .alpha.-Bromopropionitrile 23426-63-3, Methyl 2-bromoisobutyrate 29263-94-3, Diethyl methylbromomalonate 34946-82-2, Copper ditriflate 72230-93-4, 4,4'-Bis(5-nonyl)-2,2'-bipyridine

RL: CAT (Catalyst use); USES (Uses)

(cocatalyst; atom or group transfer radical polymn. in presence of zero valent transition metals)

IT 213453-21-5P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(initiator; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)

IT 9016-00-6DP, Hexamethylcyclotrisiloxane homopolymer, sru, derivs.

25084-99-5DP, Hexamethylcyclotrisiloxane homopolymer, derivs.

RL: IMF (Industrial manufacture); PREP (Preparation)

- (macroinitiator or macromonomers; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)
- IT 61551-69-7P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(macroinitiator precursor; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)
- IT 213453-19-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(macroinitiator precursor; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)
- IT 20769-85-1DP, 2-Bromoisobutryl bromide, reaction products with polyhydroxyethyl methacrylate 81601-52-7DP, reaction products with hexamethylcyclotrisiloxane homopolymer  
RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(macroinitiator; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)
- IT 213453-19-1DP, reaction products with polystyrene  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(macroinitiator; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)
- IT 9011-12-5DP, Isobutene-styrene copolymer, chlorinated 25038-76-0DP, Polynorbornene, reaction products with bromomethylbenzaldehyde 25038-78-2DP, Polydicyclopentadiene, reaction products with bromomethylbenzaldehyde 51359-78-5DP, 4-Bromomethylbenzaldehyde, reaction products with polynorbornene  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(macroinitiator; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)
- IT 205379-28-8DP, reaction products with hexamethylcyclotrisiloxane homopolymer  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(macromonomer; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)
- IT 9003-69-4P, Polydivinylbenzene  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(star; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)
- IT 7631-86-9, Silica, uses  
RL: CAT (Catalyst use); USES (Uses)

(support; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)

RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

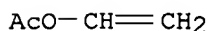
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- IT 25067-63-4P, Methyl acrylate-vinyl acetate copolymer  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)
- RN 25067-63-4 HCAPLUS

CN 2-Propenoic acid, methyl ester, polymer with ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 108-05-4

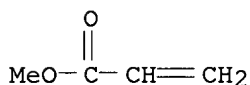
CMF C4 H6 O2



CM 2

CRN 96-33-3

CMF C4 H6 O2



IT **213453-06-6P**, Poly[2-(2-bromopropionyloxy)ethyl methacrylate]  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (atom or group transfer radical polymn. in presence of zero valent transition metals)

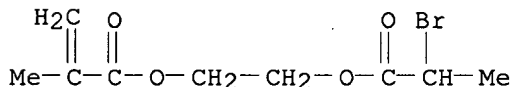
RN 213453-06-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(2-bromo-1-oxopropoxy)ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 213453-05-5

CMF C9 H13 Br O4

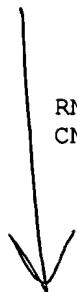


IT **213453-21-5P**  
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);  
 USES (Uses)

(initiator; atom or group transfer radical polymn. in presence of transition metal compds. that participate in reversible redox cycles with initiators, dormant polymer chain ends, or growing polymer chain ends)

RN 213453-21-5 HCAPLUS

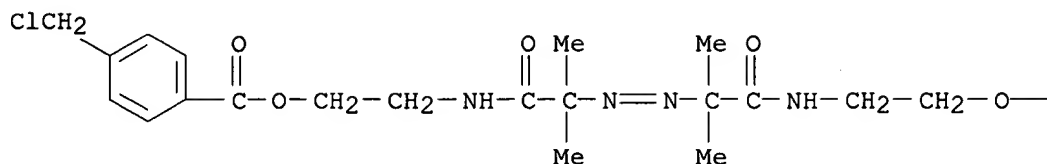
CN Benzoic acid, 4-(chloromethyl)-, azobis[(2,2-dimethyl-1-oxo-2,1-ethanediyl)imino-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)



AMCBP

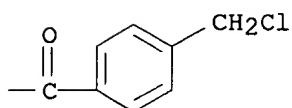
sample 273

PAGE 1-A



*Example*  
*273*  
*AMCBP*

PAGE 1-B



*selected*  
*species*

L57 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:629056 HCAPLUS

DN 135:344821

TI Synthesis and characterization of hyperbranched polyacrylates in the presence of a tetrafunctional initiator with higher reactivity than monomer by self-condensing vinyl polymerization

AU Hong, C.-Y.; Pan, C.-Y.

CS Department of Polymer Science and Engineering, University of Science and Technology of China, Hefei, Anhui, 230026, Peop. Rep. China

SO Polymer (2001) 42(23), 9385-9391

CODEN: POLMAG; ISSN: 0032-3861

PB Elsevier Science Ltd.

DT Journal

LA English

CC 35-4 (Chemistry of Synthetic High Polymers)

AB A series of hyperbranched polyacrylates were synthesized by self-condensing vinyl polymn. (SCVP) of 2-[(2-bromobutyryl)oxy]ethyl acrylate (BBEA). A tetrafunctional atom transfer radical polymn. (ATRP) initiator (THABI) capped with bromoisobutyrate, which has higher reactivity than the initiating site of monomer, was used as core-forming mols. The structure and properties of the obtained polymers were characterized by NMR and SEC/RALLS/DV/RI. The effect of the tetrafunctional initiator on mol. wt. and mol. wt. distribution of polymers was studied.

ST atom transfer radical polymn initiator hyperbranched polyacrylate synthesis; self condensing vinyl polymn hyperbranched polyacrylate synthesis

IT Polymerization

Polymerization catalysts

(atom transfer, radical; for synthesis of hyperbranched polyacrylates)

IT Dendritic polymers

RL: SPN (Synthetic preparation); PREP (Preparation)

(hyperbranched; synthesis of hyperbranched polyacrylates by self-condensing vinyl polymn.)

IT 366-18-7, 2,2'-Bipyridine 11129-27-4, Copper bromide

RL: CAT (Catalyst use); USES (Uses)

(initiation catalyst; in synthesis of hyperbranched polyacrylates by self-condensing vinyl polymn.)

- IT 371771-78-7P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(initiator; in synthesis of hyperbranched polyacrylates by self-condensing vinyl polymn.)
- IT 371771-77-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(monomer; in synthesis of hyperbranched polyacrylates in presence of a tetrafunctional initiator)
- IT 20469-89-0, 2-Bromo-2-methylpropanoyl chloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant for initiator; in synthesis of hyperbranched polyacrylates in presence of a tetrafunctional initiator)
- IT 182919-44-4P, 6,6-Bis(5-hydroxyl-2-oxapentyl)-4,8-dioxaundecane-1,11-diol  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(reactant for initiator; in synthesis of hyperbranched polyacrylates in presence of a tetrafunctional initiator)
- IT 814-68-6, Acryloyl chloride 219901-16-3, 2-Hydroxyethyl 2-bromobutyrate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant for monomer; in synthesis of hyperbranched polyacrylates in presence of a tetrafunctional initiator)
- IT 371771-79-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(synthesis of hyperbranched polyacrylates by self-condensing vinyl polymn.)

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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IT 371771-79-8P

RL: SPN (Synthetic preparation); PREP (Preparation)

(synthesis of hyperbranched polyacrylates by self-condensing vinyl polymn.)

RN 371771-79-8 HCAPLUS

CN Butanoic acid, 2-bromo-, 2-[(1-oxo-2-propenyl)oxy]ethyl ester, homopolymer (9CI) (CA INDEX NAME)

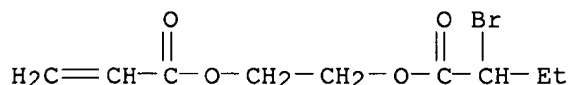
CM 1

CRN 371771-77-6

CMF C9 H13 Br O4

#282

*elected species*



L57 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:619836 HCAPLUS

DN 131:337428

TI Block copolymerizations of vinyl acetate by combination of conventional and atom transfer radical polymerization

AU Paik, Hyun-jong; Teodorescu, Mircea; Xia, Jianhui; Matyjaszewski, Krzysztof

CS Center for Macromolecular Engineering Department of Chemistry, Carnegie Mellon University, Pittsburgh, PA, 15213, USA

SO Macromolecules (1999), 32(21), 7023-7031

CODEN: MAMOBX; ISSN: 0024-9297

PB American Chemical Society

DT Journal

LA English

CC 35-4 (Chemistry of Synthetic High Polymers)

AB Four different methods of block copolymerization, combining atom transfer radical polymerization (ATRP) and conventional radical polymerization, were studied. The first two methods employed azo compounds containing activated halogen atoms. 2,2'-Azobis[2-methyl-N-[2-[4-(chloromethyl)benzoyloxy]ethyl]propionamide] was used to initiate the polymerization of vinyl acetate (VAc) at 90 °C. The resulting pVAc with a Cl terminal group (Mn = 47 900; Mw/Mn = 2.21) was subsequently used as a macroinitiator for styrene (St) to yield pVAc-b-pSt (Mn = 91 600; Mw/Mn = 1.80). In the second method, 2,2'-azobis[2-methyl-N-[2-(2-bromoisobutyryloxy)ethyl]propionamide] was first used to polymerize butyl acrylate (BA) at 30 °C in the presence of CuBr/tris[2-(dimethylamino)ethyl]amine. The pBA (Mn = 7500; Mw/Mn = 1.15) with the preserved central azo unit was dissolved in VAc and extended to a block copolymer (Mn = 41 800; Mw/Mn = 3.56). Alternatively, ATRP has been combined with a redox initiated system. VAc was polymerized in the presence of CCl4/Fe(OAc)2/N,N,N',N',N'-pentamethyldiethylenetriamine to yield pVAc with trichloromethyl end groups (Mn = 3600; Mw/Mn = 1.81). The polymer obtained was dissolved in styrene and block copolymerized by ATRP to form pVAc-b-pSt (Mn = 24 300; Mw/Mn = 1.42). In the last method, pBA with a bromine end group (Mn = 2460; Mw/Mn = 1.32) as prepared by ATRP was dissolved in VAc together with CuBr/1,4,8,11-tetramethyl-1,4,8,11-tetraazacyclotetradecane to initiate VAc polymerization. A block copolymer with Mn = 4450 and Mw/Mn = 2.58 was prepared. In the presence of 20 mol % of CuBr2, the polydispersity was further reduced to 1.73.

ST vinyl acetate block radical polymerization; atom transfer block polymerization; styrene vinyl acetate block polymer; butyl acrylate vinyl acetate block copolymer



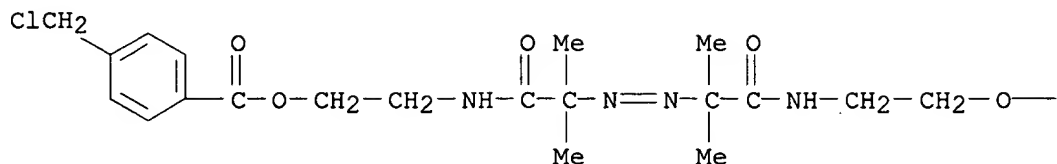
- IT Polymerization  
(block, group-transfer; block polymn. by combination of conventional and atom transfer radical methods)
- IT Polymerization  
(block, radical; by combination of conventional and atom transfer radical methods)
- IT Polymerization catalysts  
(block; in block polymn. by combination of conventional and atom transfer radical methods)
- IT Chain transfer agents  
(in block polymn. by combination of conventional and atom transfer radical methods)
- IT Macromonomers  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(in block polymn. by combination of conventional and atom transfer radical methods)
- IT Polymerization catalysts  
(redox; in block polymn. by combination of conventional and atom transfer radical methods)
- IT 7758-89-6, Cuprous chloride 7787-70-4, Cuprous bromide 7789-45-9, Cupric bromide 33527-91-2, Tris[2-(dimethylamino)ethyl]amine 41203-22-9, 1,4,8,11-Tetramethyl-1,4,8,11-tetraazacyclotetradecane 72230-93-4  
RL: CAT (Catalyst use); USES (Uses)  
(catalyst for block polymn. by combination of conventional and atom transfer radical methods)
- IT 213453-19-1P, 2,2'-Azobis[2-methyl-N-[2-(2-bromoisobutyryloxy)ethyl]propionamide] **213453-21-5P**, 2,2'-Azobis[2-methyl-N-[2-[4-(chloromethyl)benzoyloxy]ethyl]propionamide]  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(catalyst for block polymn. by combination of conventional and atom transfer radical methods)
- IT 20769-85-1, 2-Bromoisobutyryl bromide 61551-69-7, 2,2'-Azobis[2-methyl-N-(2-hydroxyethyl)propionamide]  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(catalyst starting material; catalyst for block polymn. by combination of conventional and atom transfer radical methods)
- IT 56-23-5, uses  
RL: CAT (Catalyst use); USES (Uses)  
(chain-transfer agent; catalysts in block polymn. by combination of conventional and atom transfer radical methods)
- IT **107948-08-3P**, Styrene-vinyl acetate block copolymer 110772-34-4P, Butyl acrylate-styrene block copolymer **135911-78-3P**, Butyl acrylate-vinyl acetate block copolymer  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. by combination of conventional and atom transfer radical polymn.)
- IT 3030-47-5, PMDETA 3094-87-9, Ferrous acetate  
RL: CAT (Catalyst use); USES (Uses)  
(redox; catalyst for block polymn. by combination of conventional and atom transfer radical methods)

RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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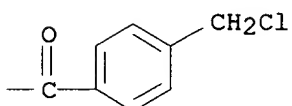
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- IT 213453-21-5P, 2,2'-Azobis[2-methyl-N-[2-[4-(chloromethyl)benzoyloxy]ethyl]propionamide]  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
USES (Uses)  
(catalyst for block polymn. by combination of conventional and atom  
transfer radical methods)
- RN 213453-21-5 HCAPLUS
- CN Benzoic acid, 4-(chloromethyl)-, azobis[(2,2-dimethyl-1-oxo-2,1-ethanediyl)imino-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



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PAGE 1-B

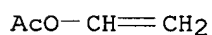


IT 107948-08-3P, Styrene-vinyl acetate block copolymer  
 135911-78-3P, Butyl acrylate-vinyl acetate block copolymer  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. by combination of conventional and atom transfer radical  
 polymn.)  
 RN 107948-08-3 HCAPLUS  
 CN Acetic acid ethenyl ester, polymer with ethenylbenzene, block (9CI) (CA  
 INDEX NAME)

CM 1

CRN 108-05-4

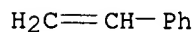
CMF C4 H6 O2



CM 2

CRN 100-42-5

CMF C8 H8

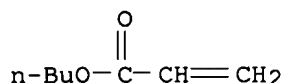


RN 135911-78-3 HCAPLUS  
 CN 2-Propenoic acid, butyl ester, polymer with ethenyl acetate, block (9CI)  
 (CA INDEX NAME)

CM 1

CRN 141-32-2

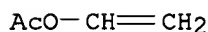
CMF C7 H12 O2



CM 2

CRN 108-05-4

CMF C4 H6 O2



L57 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:558887 HCAPLUS

DN 132:166575

TI Use of difunctional azo initiators in the block copolymerization by combination of conventional and atom transfer radical polymerization

AU Paik, Hyun-jong; Matyjaszewski, Krzysztof

CS Center for Macromolecular Engineering Department of Chemistry, Carnegie Mellon University, Pittsburgh, PA, 15213, USA

SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1999) 40(2), 436-437

CODEN: ACPPAY; ISSN: 0032-3934

PB American Chemical Society, Division of Polymer Chemistry

DT Journal

LA English

CC 35-3 (Chemistry of Synthetic High Polymers)

AB Block copolymers were prep'd. using difunctional initiators having two functional groups. One of the functional groups is an azo group for initiation of conventional radical polymn. The other functional group is activated halogen for initiation of atom transfer radical polymn. (ATRP). Block copolymn. was performed using first either ATRP or conventional radical polymn., followed by the other method. Poly(Bu acrylate)-b-polystyrene, poly(vinyl acetate)-b-polystyrene and poly(Bu acrylate)-b-poly(vinyl acetate) were prep'd. and characterized. The initiation efficiency of the (macro)azo initiator was studied.

ST azo initiator block radical polymn; catalyst polymn difunctional azo comp'd; atom transfer radical polymn azo initiator

IT Polymerization

(atom transfer, radical; use of difunctional azo initiators in block copolymn. by combination of conventional and atom transfer radical polymn.)

IT Polymerization

(radical; use of difunctional azo initiators in block copolymn. by combination of conventional and atom transfer radical polymn.)

IT Polymerization catalysts

(use of difunctional azo initiators in block copolymn. by combination of conventional and atom transfer radical polymn.)

IT 213453-19-1P, 2,2'-Azobis[2-methyl-N-(2-(2-bromoisobutyryloxy)ethyl)propionamide 213453-21-5P, 2,2'-Azobis[2-methyl-N-(2-(4-chloromethylbenzoyloxy)ethyl)propionamide

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(polymn. catalyst; use of difunctional azo initiators in block copolymn. by combination of conventional and atom transfer radical polymn.)

IT 20769-85-1, 2-Bromoisobutyryl bromide 61551-69-7, 2,2'-Azobis[2-methyl-N-(2-hydroxyethyl)propionamide

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactant; in prepn. of difunctional azo initiators for block copolymn. by combination of conventional and atom transfer radical polymn.)

IT 107948-08-3P, Styrene-vinyl acetate block copolymer  
110772-34-4P, Butyl acrylate-styrene block copolymer 135911-78-3P  
, Butyl acrylate-vinyl acetate block copolymer

RL: SPN (Synthetic preparation); PREP (Preparation)

(use of difunctional azo initiators in block copolymn. by combination of conventional and atom transfer radical polymn.)

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Ahmad, N; Macromolecules 1998, V31, P2822 HCAPLUS
- (2) Brandrup, J; Polymer Handbook; 3rd Ed 1989
- (3) Destarac, M; Polym Prepr (Am Chem Soc, Div Polym Chem) 1998, V39(2), P568 HCAPLUS
- (4) Kato, M; Macromolecules 1995, V28, P1721 HCAPLUS
- (5) Keller, R; Inorg Synth 1946, V2, P1
- (6) Li, I; Macromolecules 1997, V30, P5195 HCAPLUS
- (7) Matyjaszewski, K; Controlled Radical Polymerization ACS Symp Ser 1998, V685
- (8) Matyjaszewski, K; J Am Chem Soc 1997, V119, P674 HCAPLUS
- (9) Moad, G; The Chemistry of Free-Radical Polymerization 1995
- (10) Percec, V; Macromolecules 1995, V28, P7970 HCAPLUS
- (11) Wang, J; J Am Chem Soc 1995, V117, P5614 HCAPLUS
- (12) Xia, J; Macromolecules 1998, V31, P5958 HCAPLUS

IT 213453-21-5P, 2,2'-Azobis[2-methyl-N-(2-(4-chloromethylbenzoyloxy)ethyl)propionamide

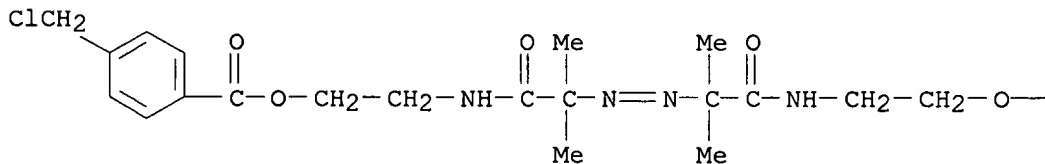
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
USES (Uses)

(polymn. catalyst; use of difunctional azo initiators in block copolymn. by combination of conventional and atom transfer radical polymn.)

RN 213453-21-5 HCAPLUS

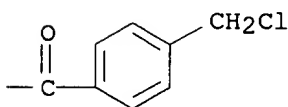
CN Benzoic acid, 4-(chloromethyl)-, azobis[(2,2-dimethyl-1-oxo-2,1-ethanediyl)imino-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



AMCBP

PAGE 1-B



IT 107948-08-3P, Styrene-vinyl acetate block copolymer  
135911-78-3P, Butyl acrylate-vinyl acetate block copolymer  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(use of difunctional azo initiators in block copolymn. by combination  
of conventional and atom transfer radical polymn.)

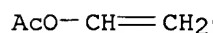
RN 107948-08-3 HCAPLUS

CN Acetic acid ethenyl ester, polymer with ethenylbenzene, block (9CI) (CA  
INDEX NAME)

CM 1

CRN 108-05-4

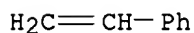
CMF C4 H6 O2



CM 2

CRN 100-42-5

CMF C8 H8



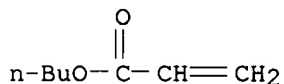
RN 135911-78-3 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with ethenyl acetate, block (9CI)  
(CA INDEX NAME)

CM 1

CRN 141-32-2

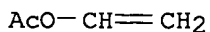
CMF C7 H12 O2



CM 2

CRN 108-05-4

CMF C4 H6 O2



L57 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2003 ACS

AN 1998:807168 HCAPLUS

DN 130:95895

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

TI Preparation of hyperbranched polyacrylates by atom-transfer radical polymerization. Part 4. The use of zero-valent copper  
AU Matyjaszewski, Krzysztof; Pyun, Jeffrey; Gaynor, Scott G.  
CS Dep. Chemistry, Carnegie Mellon Univ., Pittsburgh, PA, 15213, USA  
SO Macromolecular Rapid Communications (1998), 19(12), 665-670  
CODEN: MRCOE3; ISSN: 1022-1336  
PB Wiley-VCH Verlag GmbH  
DT Journal  
LA English  
CC 35-3 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 36  
AB The addn. of zero-valent Cu to the self-condensing vinyl polymn. (SCVP) of novel AB\* (meth)acrylic monomers using atom-transfer radical polymn. (ATRP) catalyst systems has allowed for their successful polymn. Polymn. under homogeneous and heterogeneous catalyst conditions without addnl. Cu(0) were unsuccessful. The catalyst system that was designed comprised of Cu(I) bromide, 4,4'-bis(5-nonyl)-2,2'-bipyridine, and Cu(0) metal (powder or turning). From 1H NMR spectroscopy, the degree of branching was estd. for the acrylic polymers, DB = 0.48. The degree of branching could not be detd. for methacrylates by this method due to overlapping signals in the 1H NMR spectra.  
ST hyperbranched polyacrylate radical polymn copper powder  
IT Polymer chains  
(branching; prepn. of hyperbranched polyacrylates by atom-transfer radical polymn. by using zero-valent copper catalyst)  
IT Dendritic polymers  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of hyperbranched polyacrylates by atom-transfer radical polymn. by using zero-valent copper catalyst)  
IT Polymerization catalysts  
(radical; prepn. of hyperbranched polyacrylates by atom-transfer radical polymn. by using zero-valent copper catalyst)  
IT 188065-74-9P 213453-03-3P 213453-06-6P 213453-09-9P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(hyperbranched; prepn. of hyperbranched polyacrylates by atom-transfer radical polymn. by using zero-valent copper catalyst)  
IT 7440-50-8, Copper, uses 7758-89-6, Copper monochloride 72230-93-4, 4,4'-Bis(5-nonyl)-2,2'-bipyridine  
RL: CAT (Catalyst use); USES (Uses)  
(prepn. of hyperbranched polyacrylates by atom-transfer radical polymn. by using zero-valent copper catalyst)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Gaynor, S; ACS Symposium Series 1998, V685, P396 HCAPLUS
- (3) Gaynor, S; Macromolecules 1996, V29, P1079 HCAPLUS
- (4) Gaynor, S; Macromolecules 1997, V30, P5192
- (5) Gaynor, S; Macromolecules 1997, V30, P7034
- (6) Gaynor, S; Macromolecules 1997, V30, P7042
- (7) Hawker, C; J Am Chem Soc 1995, V117, P10763 HCAPLUS
- (8) Lu, P; Macromolecules 1996, V29, P8583 HCAPLUS
- (9) Matyjaszewski, K; ACS Symposium Series 1998, V685, P258 HCAPLUS
- (10) Matyjaszewski, K; Macromolecules 1995, V28, P7901
- (11) Matyjaszewski, K; Macromolecules 1997, V30, P7348 HCAPLUS
- (12) Matyjaszewski, K; Macromolecules 1998, V31, P1537
- (13) Matyjaszewski, K; Science 1996, V272, P866
- (14) Muller, A; Macromolecules 1997, V30, P7015
- (15) Simon, P; Polym Prepr (Am Chem Soc, Div Polym Chem) 1997, V38(1), P498

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(16) Weimer, M; J Polym Sci Polym Chem 1998, V36, P955 HCAPLUS

(17) Yan, D; Macromolecules 1997, V30, P7024 HCAPLUS

IT 213453-03-3P 213453-06-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(hyperbranched; prepn. of hyperbranched polyacrylates by atom-transfer  
radical polymn. by using zero-valent copper catalyst)

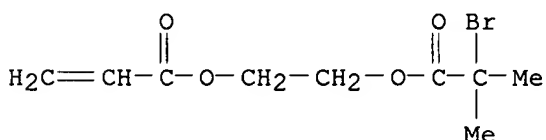
RN 213453-03-3 HCAPLUS

CN 2-Propenoic acid, 2-(2-bromo-2-methyl-1-oxopropoxy)ethyl ester,  
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 213453-02-2

CMF C9 H13 Br O4



*selected species*  
*claim 2*  
*#282*

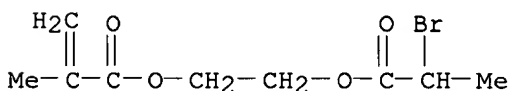
RN 213453-06-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(2-bromo-1-oxopropoxy)ethyl ester,  
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 213453-05-5

CMF C9 H13 Br O4



L57 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2003 ACS

AN 1998:621247 HCAPLUS

DN 129:261036

TI Controlled atom or group-transfer radical polymerization, coupling of  
molecules, multifunctional polymerization initiators, and formation of  
telechelic functional material

IN Matyjaszewski, Krzysztof; Gaynor, Scott G.; Coca, Simion

PA Carnegie Mellon University, USA

SO PCT Int. Appl., 230 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C08F004-10

ICS C08F008-00; C08F008-38

CC 35-3 (Chemistry of Synthetic High Polymers)

FAN.CNT 6

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE



PI WO 9840415 A1 19980917 WO 1998-US4333 19980311  
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,  
DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG,  
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX,  
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,  
UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI,  
FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM,  
GA, GN, ML, MR, NE, SN, TD, TG  
US 6538091 B1 20030325 US 1998-18554 19980204  
AU 9866877 A1 19980929 AU 1998-66877 19980311  
EP 966489 A1 19991229 EP 1998-908979 19980311  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, FI  
JP 2001514697 T2 20010911 JP 1998-539631 19980311  
PRAI US 1997-39543P P 19970311  
US 1997-41620P P 19970402  
US 1998-18554 A 19980204  
US 1995-559309 A3 19951115  
WO 1998-US4333 W 19980311  
AB A process for ATRP polymn. and coupling of mols. by radical processes is  
improved by the selection of various ligands, counterions, transition  
metal compds. and/or zero oxidn. state transition metals to give improved  
control over mol. wt., mol. wt. distribution, functionality and compns. of  
the products formed. The process is useful not only in polymn. but also  
in coupling of mols. of any size, by generation and coupling of the  
appropriate radicals, and in modifying chain ends of functionalized  
polymers. Thus, styrene was bulk polymd. in the presence of iron powder,  
DMF, and 1-(bromoethyl)benzene for 9 h at 110.degree. with 85% conversion  
to polymer having Mn 8960 and Mw/Mn 1.33.  
ST group transfer radical polymn vinyl compd; catalyst radical polymn  
coupling mol; polystyrene prepn catalyst; bromoethylbenzene initiator  
group transfer radical polymn; iron catalyst group transfer radical  
polymn; DMF ligand group transfer radical polymn  
IT Alcohols, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(amino, prepn. of; controlled atom or group-transfer radical polymn.,  
coupling of mols., multifunctional polymn. initiators, and formation of  
telechelic functional material)  
IT Ligands  
RL: CAT (Catalyst use); USES (Uses)  
(controlled atom or group-transfer radical polymn., coupling of mols.,  
multifunctional polymn. initiators, and formation of telechelic  
functional material)  
IT Polymerization  
Polymerization catalysts  
(group-transfer; controlled atom or group-transfer radical polymn.,  
coupling of mols., multifunctional polymn. initiators, and formation of  
telechelic functional material)  
IT Polymers, preparation  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(hyperbranched or bottle-brush, prepn. of; controlled atom or  
group-transfer radical polymn., coupling of mols., multifunctional  
polymn. initiators, and formation of telechelic functional material)  
IT Silsesquioxanes  
RL: CAT (Catalyst use); USES (Uses)  
(initiator; controlled atom or group-transfer radical polymn., coupling  
of mols., multifunctional polymn. initiators, and formation of

- telechelic functional material)
- IT Polysiloxanes, preparation  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);  
USES (Uses)  
(macroinitiators and macromonomers; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT Amines, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(primary, vinyl polymers terminated with; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT Amines, preparation  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(secondary, vinyl polymers terminated with; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT Polymers, preparation  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(star-branched, prepn. from bromine-terminated polystyrene and divinylbenzene; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT Macromonomers  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(terminated siloxanes; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT Crosslinking  
(thermal; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 7631-86-9, Silica, uses  
RL: CAT (Catalyst use); USES (Uses)  
(activated with silanes, catalyst support; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 78-67-1, AIBN 1313-13-9, Manganese oxide, uses 7439-95-4, Magnesium, uses 7439-96-5, Manganese, uses 7440-02-0, Nickel, uses 7440-18-8, Ruthenium, uses 7440-19-9, Samarium, uses 7440-22-4, Silver, uses 7440-47-3, Chromium, uses 7440-50-8, Copper, uses 7447-39-4, Copper (II) chloride, uses 7773-01-5, Manganese chloride 7787-70-4, Copper (I) bromide 7789-45-9, Copper (II) bromide 7789-46-0, Iron (II) bromide 10025-73-7, Chromium trichloride 10031-26-2, Iron tribromide 10049-05-5, Chromium dichloride 12597-70-5, Copper bronze 26490-65-3, Cuprous hexafluorophosphate 34946-82-2, Copper ditriflate 37234-97-2 126949-65-3  
RL: CAT (Catalyst use); USES (Uses)  
(catalyst; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 5468-93-9DP, polystyrene terminated with 85673-60-5DP, polystyrene terminated with  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)

- IT 4648-54-8D, Trimethylsilyl azide, polystyrene terminated with  
RL: NUU (Other use, unclassified); USES (Uses)  
(controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 623-24-5DP, .alpha.,.alpha.'-Dibromo-p-xylene, polystyrene terminated with  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 2564-83-2, TEMPO  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(coupling with alkyl halides; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 585-71-7, 1-Phenylethyl bromide 600-00-0, Ethyl 2-bromoisobutyrate 5445-17-0, Methyl 2-bromopropionate 19481-82-4, 2-Bromopropionitrile  
RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)  
(initiator and coupling with tetramethylpiperidinyloxy; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT **213453-21-5P**  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(initiator, prepn. of; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 79-07-2, 2-Chloroacetamide 80-58-0, 2-Bromobutyric acid 98-59-9, Tosyl chloride 104-81-4, 4-Methylbenzyl bromide 106-95-6, Allyl bromide, uses 124-63-0, Methanesulfonyl chloride 535-11-5, Ethyl 2-bromopropionate 589-15-1, 4-Bromobenzyl bromide 590-17-0, Bromoacetonitrile 598-54-9, Copper monoacetate 672-65-1, 1-Phenylethyl chloride 776-74-9, Bromodiphenylmethane 1643-19-2, Tetrabutylammonium bromide 2052-01-9, 2-Bromoisobutyric acid 2549-51-1, Vinyl chloroacetate 2916-14-5, Allyl chloroacetate 3012-37-1, Benzyl thiocyanate 3042-81-7, Methyl .alpha.-bromophenyl acetate 5061-21-2 5468-93-9 17201-43-3, 4-Cyanobenzyl bromide 17639-93-9, Methyl 2-chloropropionate 18301-66-1 29263-94-3, Diethyl 2-bromo-2-methylmalonate 39149-80-9, tert-Butyl 2-bromopropionate 56905-18-1, Methyl 2-iodopropionate 68986-76-5, Copper (I) 2-thiophenecarboxylate 82280-42-0 87129-38-2D, Allyl-2-bromopropionate, reaction products with cyclosiloxanes 208446-93-9 213137-90-7 213453-16-8D, reaction products with allylbromopropionate  
RL: CAT (Catalyst use); USES (Uses)  
(initiator; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 102-82-9, Tributyl amine 603-35-0, Triphenyl phosphine, uses  
RL: CAT (Catalyst use); USES (Uses)  
(ligand, catalyst; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 17678-99-8P 33527-91-2P 204580-80-3P  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(ligand, prepn. of; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of

- telechelic functional material)
- IT 68-12-2, DMF, uses 110-18-9 148-24-3, 8-Hydroxyquinoline, uses 366-18-7, 2,2'-Bipyridine 1116-76-3, Tri(n-octylamine) 2085-33-8 2212-32-0, 2-([2-(Dimethylamino)ethyl]methylamino)ethanol 3030-47-5, N,N,N',N',N''-Pentamethyldiethylenetriamine 3083-10-1, 1,1,4,7,10,10-Hexamethyltriethylenetetramine 41203-22-9, 1,4,8,11-Tetramethyl-1,4,8,11-tetraazacyclotetradecane 72230-93-4, 4,4'-Di(5-nonyl)-2,2'-bipyridine 72914-19-3  
 RL: CAT (Catalyst use); USES (Uses)  
 (ligand; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 116629-00-6P  
 RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (macroinitiator, prepn. and reaction of; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 213453-20-4P, 2,2'-Azobis[2-methyl-N-(2-(2-bromoisobutyryloxy)ethyl)propionamide-styrene copolymer  
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
 (macroinitiator, prepn. of; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 74143-32-1DP, poly(hexamethylcyclotrisiloxane) terminated with 99349-00-5DP, poly(hexamethylcyclotrisiloxane) terminated with 213453-17-9P, Allyl-2-bromopropionate-2,4,6,8-tetramethylcyclotrisiloxane copolymer  
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (macroinitiator, prepn. of; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 9003-27-4DP, Polyisobutene, styrene-terminated 25038-76-0P, Polynorbornene 25038-78-2P, Dicyclopentadiene homopolymer  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (macroinitiator, prepn. of; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 25084-99-5DP, Hexamethylcyclotrisiloxane homopolymer, (chlorodimethylsilylethyl)styrene- or [(chloromethyl)phenylethyl]dimethylchlorosilane-terminated  
 RL: CAT (Catalyst use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (macromonomer or macroinitiator; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 5958-97-4DP, poly(hexamethylcyclotrisiloxane) terminated with 213453-18-0DP, poly(hexamethylcyclotrisiloxane) terminated with  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (macromonomer; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 71-43-2, Benzene, miscellaneous 96-49-1, Ethylene carbonate 101-84-8 108-32-7  
 RL: MSC (Miscellaneous)

- (polymn. solvent; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 7439-89-6, Iron, uses  
RL: CAT (Catalyst use); USES (Uses)  
(powder, catalyst; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 9003-53-6DP, Polystyrene, bromine-terminated  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and coupling of; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 213453-19-1P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and polymn. of; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 9003-21-8, Methyl acrylate homopolymer  
RL: CAT (Catalyst use); USES (Uses)  
(prepn. of; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 80-62-6DP, graft copolymer with chlorosulfonated polyethylene  
100-42-5DP, graft copolymer with chlorosulfonated polyethylene  
109-73-9DP, n-Butylamine, vinyl polymers terminated with 5888-33-5DP, Isobornyl acrylate, graft copolymers with brominated rubbers  
9002-88-4DP, chlorosulfonated, graft polymer with vinyl compds.  
9003-21-8DP, Methyl acrylate homopolymer, functional group-terminated  
9003-49-0P, Butyl acrylate homopolymer 9003-53-6P, Polystyrene  
9003-54-7P, Acrylonitrile-styrene copolymer 9010-85-9DP, Isobutene-isoprene copolymer, brominated, graft polymers with vinyl compds. 9011-14-7P, Poly(methyl methacrylate) 13325-10-5DP, 4-Aminobutanol, vinyl polymers terminated with 25014-41-9P, Acrylonitrile homopolymer **25067-63-4P**, Methyl acrylate-vinyl acetate copolymer 25154-86-3P, 2-(Dimethylamino)ethyl methacrylate homopolymer 25213-17-6P, Acrylonitrile-isobutene copolymer 25232-27-3P, tert-Butyl acrylate homopolymer 25249-16-5P, 2-Hydroxyethyl methacrylate homopolymer 25266-62-0P, Allyl acrylate polymer 25767-47-9P, Butyl acrylate-styrene copolymer 26022-14-0P, 2-Hydroxyethyl acrylate polymer 26374-91-4P, Glycidyl acrylate homopolymer 26588-80-7P, Butyl acrylate-2-hydroxyethyl methacrylate-methyl methacrylate-styrene copolymer 26628-22-8DP, Sodium azide, vinyl polymers terminated with 30323-87-6P, Isobornyl acrylate homopolymer 30811-69-9P, Vinyl acrylate polymer 31049-58-8P, Butyl acrylate-isobutylene copolymer 40704-75-4P, N-(2-Hydroxypropyl)methacrylamide polymer 56467-21-1P, Butyl acrylate-3-(trimethoxysilyl)propyl methacrylate copolymer 61128-14-1DP, Isobutylene-p-methylstyrene copolymer, brominated, graft copolymers with vinyl compds. 107227-34-9P, Acrylonitrile-isobutylene alternating copolymer 108150-11-4P, Methyl acrylate-methyl methacrylate block copolymer 108501-18-4P, Butyl acrylate-methyl methacrylate block copolymer 110772-34-4P, Butyl acrylate-styrene block copolymer 112965-31-8P, Acrylonitrile-butyl acrylate-styrene block copolymer 121264-61-7P, Butyl acrylate-2-hydroxyethyl acrylate block copolymer 136234-79-2P, N-Cyclohexyl maleimide-styrene alternating copolymer

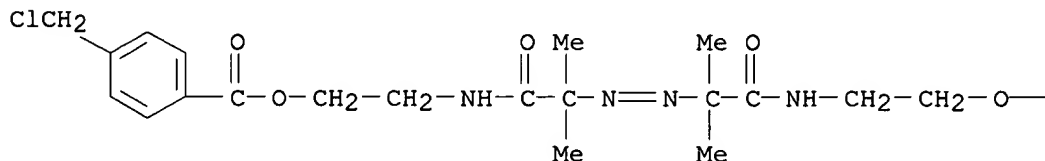
- 137168-27-5P, Acrylonitrile-butyl acrylate block copolymer 144719-01-7P, Methyl acrylate-methyl methacrylate-styrene block copolymer  
166664-50-2P, Butyl acrylate-isobutylene alternating copolymer  
188065-74-9P, 2-(2-Bromopropionyloxy)ethyl acrylate homopolymer  
**213453-03-3P 213453-06-6P** 213453-09-9P 213453-12-4P,  
Styrene-vinyl chloride-vinyl chloroacetate graft copolymer 213453-13-5P,  
Butyl acrylate-2-ethylhexyl acrylate-Zonyl TAN block copolymer  
213453-22-6P 213555-59-0P, Acrylonitrile-methyl acrylate block copolymer  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(prepn. of; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 154554-67-3P 212128-87-5P 212128-91-1P 212129-00-5P 213453-14-6P,  
Isobornyl acrylate-isobutene-methyl acrylate-methyl methacrylate-styrene block copolymer  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 107-21-1, 1,2-Ethanediol, reactions 563-76-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant in initiator prep.; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 49864-98-4, Hexakis(4-hydroxymethylphenoxy)cyclotriphosphazene  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 75-09-2, reactions 20769-85-1, 2-Bromoisobutyryl bromide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with azobis[methyl(hydroxyethyl)propionamide]; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 61551-69-7, 2,2'-Azobis[2-methyl-N-(2-hydroxyethyl)propionamide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with haloalkyl halide; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 50975-76-3 103526-27-8  
RL: NUU (Other use, unclassified); USES (Uses)  
(silica activated by; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- IT 100-66-3, Anisole, miscellaneous 25321-22-6, Dichlorobenzene  
RL: MSC (Miscellaneous)  
(solvent; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)
- RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE  
(1) Decker; US 3862978 A 1975 HCAPLUS  
(2) Patten; Science 1996, V272, P866 HCAPLUS
- IT **213453-21-5P**  
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(initiator, prep. of; controlled atom or group-transfer radical

polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)

RN 213453-21-5 HCAPLUS

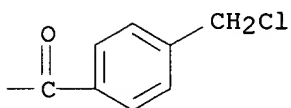
CN Benzoic acid, 4-(chloromethyl)-, azobis[(2,2-dimethyl-1-oxo-2,1-ethanediyl)imino-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



AMCBP

PAGE 1-B



IT 25067-63-4P, Methyl acrylate-vinyl acetate copolymer

213453-03-3P 213453-06-6P

RL: IMF (Industrial manufacture); PREP (Preparation)

(prepn. of; controlled atom or group-transfer radical polymn., coupling of mols., multifunctional polymn. initiators, and formation of telechelic functional material)

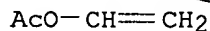
RN 25067-63-4 HCAPLUS

CN 2-Propenoic acid, methyl ester, polymer with ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 108-05-4

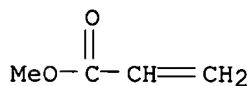
CMF C4 H6 O2



CM 2

CRN 96-33-3

CMF C4 H6 O2



RN 213453-03-3 HCAPLUS

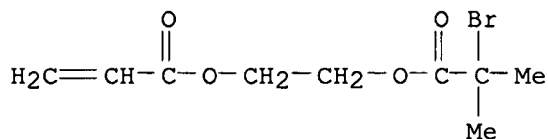
CN 2-Propenoic acid, 2-(2-bromo-2-methyl-1-oxopropoxy)ethyl ester,

homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 213453-02-2  
CMF C9 H13 Br O4

*selected species*  
#282

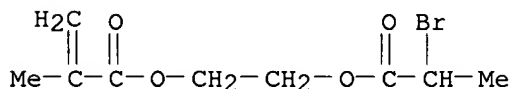


RN 213453-06-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(2-bromo-1-oxopropoxy)ethyl ester,  
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 213453-05-5  
CMF C9 H13 Br O4



=> FILE REG

FILE 'REGISTRY' ENTERED AT 16:27:05 ON 13 MAY 2003  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
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DICTIONARY FILE UPDATES: 12 MAY 2003 HIGHEST RN 514787-04-3

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP  
PROPERTIES for more information. See STNote 27, Searching Properties  
in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> L36;D L44;D L45;D L49; D L53;D L54;D L55  
L36 IS NOT A RECOGNIZED COMMAND



COMMAND STACK INTERRUPTED. ENTER "DISPLAY HISTORY"  
TO SEE WHICH COMMANDS WERE EXECUTED.

The previous command name entered was not recognized by the system.  
For a list of commands available to you in the current file, enter  
"HELP COMMANDS" at an arrow prompt (=>).

=> D L36;D L44;D L45;D L49; D L53;D L54;D L55

L36 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS

RN 213453-21-5 REGISTRY

CN Benzoic acid, 4-(chloromethyl)-, azobis[(2,2-dimethyl-1-oxo-2,1-ethanediyl)imino-2,1-ethanediyl] ester (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 2,2'-Azobis[2-methyl-N-[2-[4-(chloromethyl)benzoyloxy]ethyl]propionamide]

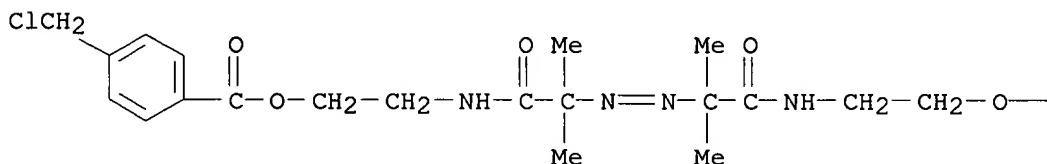
FS 3D CONCORD

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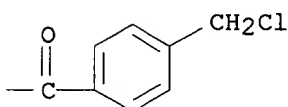
SR CA

LC STN Files: CA, CAPLUS, USPATFULL

PAGE 1-A



PAGE 1-B



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

4 REFERENCES IN FILE CA (1957 TO DATE)  
4 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L44 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS

RN 371771-79-8 REGISTRY

CN Butanoic acid, 2-bromo-, 2-[(1-oxo-2-propenyl)oxy]ethyl ester, homopolymer (9CI) (CA INDEX NAME)

MF (C9 H13 Br O4)x

CI PMS

PCT Polyacrylic

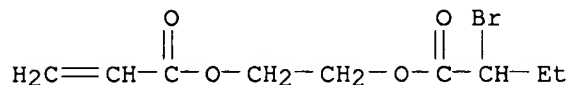
SR CA

LC STN Files: CA, CAPLUS

CM 1

CRN 371771-77-6

CMF C9 H13 Br O4



1 REFERENCES IN FILE CA (1957 TO DATE)

1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L45 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS

RN 371771-79-8 REGISTRY

CN Butanoic acid, 2-bromo-, 2-[(1-oxo-2-propenyl)oxy]ethyl ester, homopolymer (9CI) (CA INDEX NAME)

MF (C9 H13 Br O4)x

CI PMS

PCT Polyacrylic

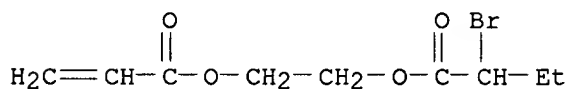
SR CA

LC STN Files: CA, CAPLUS

CM 1

CRN 371771-77-6

CMF C9 H13 Br O4



1 REFERENCES IN FILE CA (1957 TO DATE)

1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L49 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS

RN **371771-77-6** REGISTRY

CN Butanoic acid, 2-bromo-, 2-[(1-oxo-2-propenyl)oxy]ethyl ester (9CI) (CA INDEX NAME)

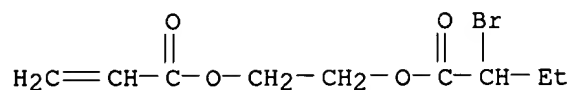
FS 3D CONCORD

MF C9 H13 Br O4

CI COM

SR CA

LC STN Files: CA, CAPLUS



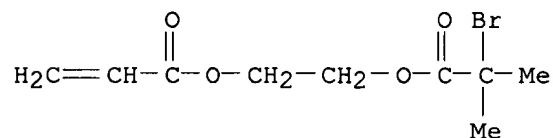
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1957 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L53 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS  
RN 213453-03-3 REGISTRY  
CN 2-Propenoic acid, 2-(2-bromo-2-methyl-1-oxopropoxy)ethyl ester,  
homopolymer (9CI) (CA INDEX NAME)  
MF (C9 H13 Br O4)x  
CI PMS  
PCT Polyacrylic  
SR CA  
LC STN Files: CA, CAPLUS

CM 1

CRN 213453-02-2  
CMF C9 H13 Br O4

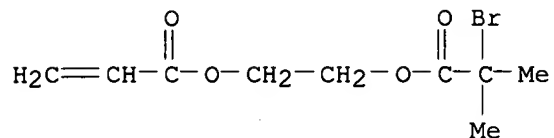


2 REFERENCES IN FILE CA (1957 TO DATE)  
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L54 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS  
RN 213453-03-3 REGISTRY  
CN 2-Propenoic acid, 2-(2-bromo-2-methyl-1-oxopropoxy)ethyl ester,  
homopolymer (9CI) (CA INDEX NAME)  
MF (C9 H13 Br O4)x  
CI PMS  
PCT Polyacrylic  
SR CA  
LC STN Files: CA, CAPLUS

CM 1

CRN 213453-02-2  
CMF C9 H13 Br O4



2 REFERENCES IN FILE CA (1957 TO DATE)

2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L55 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS

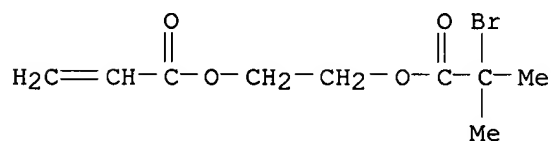
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INDEX NAME)

FS 3D CONCORD

MF C9 H13 Br O4

CI COM

SR CA



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*